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EXAMINER	
PARK, CHAN S	

ART UNIT	PAPER NUMBER
2622	6

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/621,136	SHIGEHIRO, SHOICHI	
	Examiner	Art Unit	
	CHAN S PARK	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 July 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "the image (22)" as described in page 20 line 5 of the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because "cross-hatching" and "hatching" area in fig.11 are not numbered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: incorrect use of the word "datas" and "informations" throughout the specification. The correct plural form "data" and "information" should be used.

Appropriate correction is required.

Claim Objections

4. All claims are objected to because of the following informalities: incorrect use of the word "datas" and "informations" throughout the claims. The correct plural form "data" and "information" should be used.

Appropriate correction is required.

5. Claim 1 is objected to because of the following informalities: redundant statement of "including the images" in line 3. The applicant already has stated that by combining images will create a composite image and it is inherent that the composite image is made up of or includes the images. Appropriate correction is required.

6. Claim 23 is objected to because of the following informalities: the word "imaginary" does not clearly describe the invention. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 7, 11, 21, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. As per claims 6 and 7, it is not clearly understood what "order the datas of the images" means. It is unclear if the apparatus is ordering or commanding the data of the image to perform a task.

8. As per claim 11, it is not clearly understood what the "recording areas" is referring to. It is unclear if the applicant is referring to areas in the printing paper or in the image recording device.

9. As per claim 21, it is not clearly understood what "each other face to each other" means.

10. Claim 23 recites the limitation "the four images" in page 35, line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11 and 15-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamada U.S. Patent No. 6,151,421.

11. With respect to claim 1, the Yamada reference discloses an apparatus (image composing apparatus) for treating images by combining data of the images (digital image newly acquired 1) to a data of a composite image including the images (digital image 2 in fig. 6), comprising:

An image recording device (storage) for storing the respective data of the images (independent digital image in col. 6, line 6); and

An image combining device (image composing means 5) for combining the data of the images input from the image recording device (storage) to the data of the composite image (figs 1 and 6), and outputting the data of the composite image (col. 5, lines 35-37 & col. 5, line 43 – col. 6, line 9).

Please note that the embodiment disclosed in figs. 1 and 2 is an improvement of the embodiment disclosed in fig. 6.

12. With respect to claim 2, the Yamada reference further discloses that each independent data are stored in the image recording device (independent digital image in col. 6, line 6).

13. With respect to claim 3, the Yamada reference discloses an information for identifying a turn number (PartsNo (16)) of each of the data of the images stored in the image recording device in an order is attached to the each of the data of the images (col. 6, lines 16-21, col. 3, lines 55-58 & col. 8, lines 42-54).

14. With respect to claim 4, the Yamada reference discloses the data of the images (images 1 & 2 in fig. 1) being taken into and stored by the image recording device one data by one data (col. 5, lines 23-42 & col. 6, line 6).

15. With respect to claim 5, the Yamada reference discloses the image composing apparatus wherein the images are read to be converted to the data of the images, one image by one image (col. 5, lines 23-42). Although the reference does not explicitly disclose the conversion means, the reference teaches that the images are digital which previously obtained by a scanner. Therefore, it is inherent that the original images are digitized by the conversion.

16. With respect to claim 6, the Yamada reference discloses the information for identifying the turn number of the each of the image data in the order, in which the order of the image data are taken into the image recording device, being attached to the each of the image data (col. 6, lines 16-21 & col. 3, lines 55-58).

17. With respect to claim 7, the Yamada reference discloses the information identifying the turn number of the each of the data of the images in the order, in which the images are read to be converted to the data of the images, is attached to the each of the data of the images (col. 6, lines 16-21 & col. 3, lines 55-58).

18. With respect to claim 8, the Yamada reference discloses the image composing apparatus wherein the turn numbers (PartsNo (16)) of the data are desirably set to form the order (design defining information 7 in col. 6, lines 10-27). According to the reference, the design defining information 7 has commands for displaying or allocating the each image on one composite image.

19. With respect to claim 9, the Yamada reference discloses the image composing apparatus wherein the turn number attached to the data is changeable (col. 9, lines 44-46 & col. 10, line 50 – col. 11, line 4). According to the reference, it teaches that the design defining information 7 can be edited to make changes in the figures including PartsNo (16).

20. With respect to claim 10, the Yamada reference discloses the image composing apparatus wherein the information for identifying the turn number of the each of the data is included by the each of the data (col. 3, lines 55-58).

21. With respect to claim 11, the Yamada reference discloses the image composing apparatus wherein the information for identifying the turn numbers of a plurality of the data correspond to respective codes for identifying recording areas for storing respectively the plurality of the data (col. 6, lines 10-27). According to the reference, the design defining information 7 has commands for displaying or allocating the each image on one composite image.

22. With respect to claim 15, the Yamada reference discloses the image composing apparatus wherein the image combining device (image composing means 5) combines the data of the images to the data of the composite image such that the images are arranged on the composite image in accordance with the other (col. 6, lines 9-27 & col. 3, lines 55-58).

23. With respect to claim 16, as noted above in claims 9 and 15, the Yamada reference discloses the image composing apparatus wherein the image combining device (image composing means 5) combines the data of the images to the data of the composite image such that the images are arranged on the composite image (col. 6, lines 9-27 & col. 3, lines 55-58) in accordance with the changed order including the changed turn number (col. 9, lines 44-46 & col. 10, line 50 – col. 11, line 4).

24. With respect to claim 17, the Yamada reference further discloses an image input device (scanner) for reading each of the images to be converted to the data of the image (col. 5, lines 26-37 & col. 9, lines 33-36). Although the reference does not specifically disclose picture elements or sensors in the scanner, it is inherent that the scanner has sensors for reading and saving image data for each pixel. The reference

further discloses that the images are subjected to image processing, such as image size enlargement or reduction (lines 33-34). Thus, it is inherent that an area of the part of the each of the images to be read by each of the sensors is changeable to perform enlargement or reduction image processing.

25. With respect to claim 18, as noted above in claim 17, the Yamada reference discloses that the images are subjected to image processing, such as image size enlargement or reduction (lines 33-34). Thus, it is inherent that the area is changed in accordance with a dimension of the each of the images to be read when either enlargement or reduction image processing is performed.

26. With respect to claim 19, as noted above in claims 17 and 18, the Yamada reference the image composing apparatus comprises a printing device for printing the composite image on a work-piece (recording medium) on the basis of the data of the composite image, wherein the area of the part of the each of the images is changed in accordance with at least one of a dimension of the composite image to be printed and a dimension of the each of the images to be read so that the images are included by the composite image (col. 5, lines 23-37).

27. With respect to claim 20, the Yamada reference discloses the image composing apparatus wherein the image combining device combines the data of the images to the data of the composite image including the images in such a manner that side edges of the images adjacent to each other are aligned along an imaginary straight line on the composite image (digital composed image 6 in fig. 2 and figs. 4 & 5). Although the rabbit figure in the drawing is not boxed in a square, the office considered the "rabbit"

figure just like the other three human figures. The digital composed image 6 shows that the side edges of the images adjacent to each other are aligned along an imaginary straight line on the composite image.

28. With respect to claim 21, the Yamada reference discloses the image composing apparatus wherein the image combining device combines the data of the images to the data of the composite image including the images in such a manner that side edges of the images adjacent to each other and are parallel to each other on the composite image (digital composed image 6 in fig. 2 and figs. 4 & 5).

29. With respect to claim 22, the Yamada reference discloses the image composing apparatus wherein the image combining device combines the data of the images to the data of the composite image including the images in such a manner that side edges of the images adjacent to each other contact each other (col. 9, lines 33-46). The paragraph teaches the method of desirably setting the position of the rectangles. Thus, it is concluded that the design defining information 7 has a capability of positioning the side edges of images adjacent to each other to contact each other.

30. With respect to claim 23, the Yamada reference discloses the image composing apparatus wherein the image combining device combines the data of the images to the data of the composite image including the images in such a manner that two side edges of each of four images adjacent to each other are close to and parallel to respective two imaginary straight lines perpendicular to each other on the composite image (digital composed image 6 in fig. 2 and figs. 4 & 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada as applied to claim 1 above, and further in view of Norris U.S. Patent No. 6,147,768.

31. With respect to claim 12, as noted above in claim 1, the Yamada reference discloses all the limitations cited in claim 1.

The Yamada reference dose not disclose expressly if the images stored in the image recording device can be selectively removable.

The Norris reference, however, discloses a method and apparatus for arranging photographic images in a photographic album, which forms a composite image (figs. 1 & 2). It further teaches that the captured images can be arranged and stored in the photographic database on the hard disk (col. 6, lines 53-58). It further discloses that files can be either added or deleted according to a user's preference (col. 7, lines 33-48).

Yamada and Norris are analogous art because they are from the same field of endeavor, which is the image-combining art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to remove undesirable images data from the image recording device (hard disk) taught by Norris to increase the storage capacity in Yamada storage for the future data.

Furthermore, Examiner takes Official Notice that removing, adding, deleting, and replacing data in the memory storage or the hard disk is well known in the art at the time the invention was made to control the memory capacity.

Therefore, it would have been obvious to combine Yamada with Norris to obtain the invention as specified in claim 12.

32. With respect to claim 13, arguments analogous to those presented for claim 12, are applicable. The Norris reference further teaches the method of replacing the image data in the memory (col. 7, lines 33-48).

33. With respect to claim 14, arguments analogous to those presented for claim 12, are applicable. The Norris reference further teaches the method of changing the image data in the memory (col. 7, lines 33-48).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada as applied to claim 1 above, and further in view of Vyncke et al U.S. Patent No. 5,926,185.

34. With respect to claim 24, as noted above in claim 1, the Yamada reference discloses all the limitations cited in claim 1.

The Yamada reference does not disclose expressly the image composing apparatus wherein the image combining device combines the data of the images to the data of the composite image including the images while a data corresponding to a part of at least one of the images is deleted to prevent the part of at least one of the images from being included by the composite image.

The Vyncke et al. reference, however, teaches a method of combining images together using page description language. The reference further teaches that a part of at least one of the images can be deleted to prevent the part of at least one of the images from being included by the composite image (col. 7, lines 60-64).

Yamada and Vyncke et al. are analogous art because they are from the same field of endeavor, which is image-combining art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of deleting a part of an image of Vyncke et al. to image combining method of Yamada. Since Yamada teaches the method of positioning individual images on the recording medium (col. 9, lines 33-57), when such an overlap or a placing an image outside of the recording medium occurs, Vyncke et al. method of deleting will bring the efficiency of the digital work flow in graphic art (col. 2, line 55 – col. 3, line17).

The suggestion/motivation for doing so would have been to prevent an excessive ink usage.

Therefore, it would have been obvious to combine Yamada with Vyncke et al. to obtain the invention as specified in claim 24.

Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada as applied to claims 1, 3, and 9 above, and further in view of Usami et al. U.S. Patent No. 6,473,196.

35. With respect to claims 25 and 27, as noted above in claim 3, the Yamada reference discloses all the limitations cited in claim 3.

The Yamada reference does not disclose expressly the image composing apparatus further comprising a printing device for printing the composite image on a work-piece on the basis of the data of the composite image while feeding the work-piece in a printing direction, wherein the image combining device combines the data of the image to the data of the composite image such that the images are arranged along the printing direction or a direction perpendicular to the printing direction in accordance with the order on the composite image.

The Usami et al. reference, however, discloses a copier for scanning a plurality of images and combining the images into one composite image to print (figs. 1C, D & col. 7, lines 34-53). The reference further teaches that reduced images are stored in a page memory 312 in a predetermined order (col. 8, lines 14-23). It further teaches the method of printing the reduced composite images in both horizontal and vertical directions that is in printing direction and a direction perpendicular to the printing direction (figs. 13A & B).

Yamada and Usami et al. are analogous art because they are from the same field of endeavor, which is image-combining art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the horizontal and vertical printing method of Usami et al. to the image combining apparatus of Yamada.

The suggestion/motivation for doing so would have been to provide an apparatus that automatically adjusts images both horizontally and vertically according to the original images for the proper printing purposes as shown in figs. 2A and B of Usami et. al.

Therefore, it would have been obvious to combine Yamada with Usami et al. to obtain the invention as specified in claims 25 and 27.

36. With respect to claims 26 and 28, as noted above in claims 3 and 9, the Yamada reference discloses all the limitations cited in claim 9.

The Yamada reference does not disclose expressly the image composing apparatus further comprising a printing device for printing the composite image on a work-piece on the basis of the data of the composite image while feeding the work-piece in a printing direction, wherein the image combining device combines the data of the image to the data of the composite image such that the images are arranged along the printing direction or a direction perpendicular to the printing direction in accordance with the changed order including the changed turn number on the composite image.

The Usami et al. reference, however, discloses a copier for scanning a plurality of images and combining the images into one composite image to print (figs. 1C, D & col. 7, lines 34-53). The reference further teaches that reduced images are stored in a page memory 312 in a predetermined order (col. 8, lines 14-23). It further teaches the

method of printing the reduced composite images in both horizontal and vertical directions that is in printing direction and a direction perpendicular to the printing direction (figs. 13A & B).

Yamada and Usami et al. are analogous art because they are from the same field of endeavor, which is image-combining art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the horizontal and vertical printing method of Usami et al. to the image combining apparatus of Yamada after the turned number has been changed. Since the changing the turn number can be done by the apparatus taught by Yamada, horizontal and vertical printing method of Usami et al. can be implemented just as noted in the rejection for claims 25 and 27.

The suggestion/motivation for doing so would have been to provide an apparatus that automatically adjusts images both horizontally and vertically according to the original images for the proper printing purposes as shown in figs. 2A and B of Usami et al.

Therefore, it would have been obvious to combine Yamada with Usami et al. to obtain the invention as specified in claims 26 and 28.

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,501,556 to Nishii et al. discloses an image forming apparatus for combining a plurality of images or pages into one single page.

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S PARK whose telephone number is (703) 305-2448. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Chan S. Park
December 4, 2003